6. (Amended) The device according to claim 1, characterized in that said optical system is essentially formed by two components placed on both sides of said crystal and selected from a convergent lens, a divergent lens, a set of lenses, a reflecting surface or mirror with the concavity orientated on the side of said crystal, and a reflecting surface or mirror with the concavity orientated on the opposite side of said crystal.

7. (Amended) The device according to claim 1, characterized in that the axis of revolution of said crystal coincides with a rotary mechanical axis so that the crystal may rotate around its axis.

8. (Amended) The device according to claim 1, characterized in that said crystal is a crystal with a phase tuning property through double refraction.

10. (Amended) The device according to claim 1, characterized in that said crystal is a crystal with a quasi phase tuning property.

12. (Amended) The device according to claim 1, characterized in that the axis of revolution of said crystal is orthogonal to the plane of the direction(s) of wave vectors of a sought-after interaction, and more particularly of the direction(s) providing maximum efficiency of this interaction.

13. (Amended) The device according to claim 1, characterized in that said crystal contains direction(s) providing a maximum efficiency of the interaction, so that they are accessible to said incident optical radiation(s) under normal incidence or close to the normal on one or more surface(s) of said crystal defining a cylindrical volume of revolution, either by rotation of said crystal around its axis of revolution, or by rotation of said incident optical radiations around said crystal in a plane orthogonal to the axis of revolution of said crystal.

14. (Amended) The device according to claim 1, characterized in that said incident optical radiation(s) comprise (each) one, two, three or four equal or different frequencies, with colinear or non-colinear wave vectors, and under normal incidence or close to the normal on one or more surfaces of said crystal defining a cylindrical volume of revolution.

15. (Amended) The device according to claim 1, characterized in that said crystal has a network of monocrystalline domains selected from a network of plane monocrystalline domains, a network of circular monocrystalline domains, a network of elliptical monocrystalline domains.

16. (Amended) The device according to claim 1, characterized in that said crystal has a network of periodically alternating domains, optionally surrounded by a non-alternating monocrystalline crown (c).

17. (Amended) The device according to claim 1, characterized in that said incident optical radiations are laser radiation(s), notably one or more laser radiations selected from a fixed frequency laser radiation and a tunable frequency laser radiation.

18. (Amended) The device according to claim 1, characterized in that said interaction(s) are interactions (s) selected from a three-wave interaction or a four-wave interaction.

19. (Amended) The device according to claim 1, characterized in that said crystal has a non-centrosymmetric structure so that said device provides a three-wave interaction.

20. (Amended) The device according to claim 1, characterized in that said or at least one of said incident optical radiation(s) comprises two frequencies for a three-wave interaction, or three frequencies for a four-wave interaction, and in that said or at least one of said emerging optical radiation(s) comprise a frequency which corresponds to the sum of said two, or, if required, said three frequencies comprised in said incident optical radiation(s).

21. (Amended) The device according to claim 1, characterized in that said or at least one of said emerging optical radiation(s) comprise a frequency which is equal to the double or the triple of a frequency comprised in said or at least one of said incident optical radiation(s).

22. (Amended) The device according to claim 1, characterized in that said or at least one of said incident optical radiation(s) comprise two frequencies for a three-wave interaction, or three frequencies for a four-wave interaction and in that said or at least one of said emerging optical radiation(s) comprise a frequency which corresponds to a difference between said two, or if required, said three frequencies comprised in said incident optical radiation(s).

23. (Amended) The device according to claim 1, characterized in that said or at least one of said emerging optical radiation(s) comprise two frequencies for a three-wave interaction, or three frequencies for a four-wave interaction, the sum of which is equal to a frequency comprised in said or at least one of said incident optical radiation(s).

24. (Amended) The device according to claim 1, characterized in that said or at least one of said interaction(s) is an interaction with colinear wave vectors.

25. (Amended) The device according to claim 1, characterized in that said interaction is an interaction with non-colinear wave vectors.

26. (Amended) The device according to claim 1, characterized in that said or at least one of said interaction(s) is an interaction selected from an optical parametric amplification, a generation of second or third harmonic.

27. (Amended) The device according to claim 1, characterized in that said crystal is placed inside a cavity providing a resonant interaction, and in that said optical system for confining and focussing said incident optical radiation(s) on the central portion(s) of said crystal on the one hand, and for collimating and directing said emerging optical radiation(s) on the other hand, is placed outside said cavity.

29. (Amended) The device according to claim 27, characterized in that said cavity includes input and output reflecting surfaces facing each other providing resonance for at least one of the interacting waves.

30. (Amended) The device according to claim 29, characterized in that said input reflecting surface is selected from a plane reflecting surface and a reflecting surface having a radius of curvature, with the concavity selected from a concavity orientated on the side of said crystal and a concavity orientated on the opposite side, in order to optimize the oscillation threshold and the stability of the cavity.

31. (Amended) The device according to claim 29, characterized in that said at least one resonant wave has a non-zero double refraction angle ρ and in that said output reflecting surface has a radius of curvature, with a concavity selected from a concavity orientated on the side of said

crystal and a concavity orientated on the opposite side of said crystal, so that the outgoing and returning beams coincide.

32. (Amended) The device according to claim 29, characterized in that said at least one resonant wave has a non-zero double refraction angle ρ, and in that said output reflecting surface is placed at a distance (d) from said crystal and has a radius of curvature R the respective values of which satisfy equation $R = d - L$ with d larger than L for a concavity orientated on the side of said crystal, or the equation $R = L - d$ with d less than L for a concavity orientated on the opposite side of said crystal, with L defined as $L = R_c\ (\cos(2\rho) + (\sin(2\rho) / \tan(\rho_c)) - 1)$, with R_c the radius of the cylindrical volume of revolution, ρ the double refraction angle and with ρ_c defined by $\rho_c = \arcsin(n \sin(2\rho) - 2\rho)$, with n being the refractive index of said at least one wave for which resonance is sought.

33. (Amended) The device according to claim 29, characterized in that said at least one resonant wave has a zero double refraction angle ρ, and in that said output reflecting surface is selected from a plane reflecting surface and a reflecting surface having a radius of curvature, with the concavity selected from a concavity orientated on the side of said crystal and a concavity orientated on the opposite side, in order to optimize the oscillation threshold and the stability of the cavity.

34. (Amended) The device according to claim 1, characterized in that it further comprises means for thermostatic control of said crystal.

35. (Amended) The device according to claim 1, characterized in that said crystal is held at a temperature different from room temperature.

36. (Amended) The device according to claim 1, characterized in that it further comprises means for applying a static or low frequency electric field to the inside of said crystal.

37. (Amended) The device according to claim 1, characterized in it further comprises a pair of electrodes placed on the opposite faces of said crystal.

38. (Amended) The device according to claim 1, characterized in that it forms a component selected from a spectroscope component, a remote detection system component, a remote

transmission system component, a remote guiding system component, a LIDAR system component, an optronic counter-measure system component.

39. (Amended) A method for generating an optical radiation at least tunable in frequency, characterized in that it implements a device according to claim 1.

REMARKS

Entry of the above is requested to reduce improper multiple dependencies.

Respectfully submitted,

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